31. (new) The method of claim 28, wherein said OP-1 polypeptide comprises residues 48-292 of SEQ ID NO:2.--

--32. (new) The method of claim 28, wherein said OP-1 polypeptide comprises the amino acid sequence of SEQ ID NO:2.--

--33. (new) The method of claim 28, wherein said morphogen is a BMP-2 polypeptide.--

--34. (new) The method of claim 28, wherein said morphogen is a BMP-5 polypeptide

--35. (new) The method of claim 28, wherein said morphogen is a BMP-6 polypeptide.--

--36. (new) The method of claim 28, wherein said morphogen is a 60A polypeptide.--

--37. (new) A method for restoring a function of damaged hippocampal tissue, comprising contacting a hippocampal cell with a morphogen selected from the group consisting of an OP-1 polypeptide, a BMP-2 polypeptide, a BMP-5 polypeptide, a BMP-6 polypeptide, and a 60A polypeptide.--

--38. The method of claim 37, wherein said morphogen stimulates synapse formation between hippocampal neurons.--

--39. (new) The method of claim 38, wherein said OP-1 polypeptide comprises residues 30-292 of SEQ ID NO:2.--

--40. (new) The method of claim 38, wherein said OP-1 polypeptide comprises residues 30-292 of SEQ ID NO:2.--

41. (new) The method of claim 38, wherein said OP-1 polypeptide comprises residues 48-292 of SEQ ID NO:2.--

--42. (new) The method of claim 38, wherein said OP-1 polypeptide comprises the amino acid sequence of SEQ ID NO:2.--

--43. (new) The method of claim 38, wherein said morphogen is a BMP-2 polypeptide.--

--44. (new) The method of claim 38, wherein said morphogen is a BMP-5 polypeptide

--45. (new) The method of claim 38, wherein said morphogen is a BMP-6 polypeptide.--